

=> d his

(FILE 'HOME' ENTERED AT 16:19:14 ON 19 DEC 2006)  
FILE 'CA' ENTERED AT 16:19:27 ON 19 DEC 2006

L1 5247 S (QUENCH? OR TERMINAT? OR DESTROY?) (4A) (DIRECT OR DIRECTLY OR FIRST ORDER OR FIRSTORDER OR 1ST ORDER OR STATIC OR GROUND STATE OR CONTACT?)  
L2 578 S L1 (10A) (FLUORESC? OR LUMINESC?)  
L3 852 S L1 (10A) (PROCESS? OR METHOD OR MECHANISM OR KINETIC)  
L4 105 S L2 AND (DYE OR LABEL? OR TAG OR INDICATOR)  
L5 64 S L3 AND (DYE OR LABEL? OR TAG OR INDICATOR)  
L6 334 S L1 AND (DYE OR LABEL? OR TAG OR INDICATOR)  
L7 5 S L6 AND ION PAIR  
L8 1678 S GROUND STATE (2A) (ASSOCIAT? OR CONTACT? OR COMPLEX)  
L9 93 S L8 (10A) (FLUORESC? OR LUMINESC?)  
L10 241 S L4-5, L7, L9  
L11 154 S L10 AND PY<2000  
FILE 'BIOSIS' ENTERED AT 16:39:36 ON 19 DEC 2006  
L12 43 S L11  
FILE 'MEDLINE' ENTERED AT 16:40:08 ON 19 DEC 2006  
L13 37 S L11  
FILE 'CA, BIOSIS, MEDLINE' ENTERED AT 16:40:55 ON 19 DEC 2006  
L14 178 DUP REM L11 L12 L13 (56 DUPLICATES REMOVED)

=> d l14 bib,ab,kwic 1-178

L14 ANSWER 16 OF 178 CA COPYRIGHT 2006 ACS on STN  
AN 131:215639 CA  
TI The influence of hydrogen bonding on the photoinduced interaction of 9-anthracenecarboxylic acid and xanthene **dye** esters  
AU Zhang, Hong; Zhang, Manhua; Shen, Tao  
CS The Institute of Photographic Chemistry, Chinese Academy of Sciences, Beijing, 100101, Peop. Rep. China  
SO Dyes and Pigments (1999), 43(1), 15-20  
AB The interaction of 9-anthracenecarboxylic acid with xanthene esters in chloroform soln. was studied using emission spectra, fluorescence lifetime, and IR and 1H NMR spectra. The results show that there exists both dynamic and **static fluorescence quenchings**. Dynamic quenching is a diffusion-controlled **process** while **static quenching** is affected by hindrance of substituents adjacent to the hydroxyl groups in the xanthene moiety. Thus an intermol. hydrogen bond interaction model between the hydroxyl groups of xanthene **dye** esters and 9-anthracenecarboxylic acid is proposed, and this is supported by IR and 1H NMR spectra data. The binding const. for fluorescein and 9-anthracene carboxylic acid is 982 M-1, while it is only 81 M-1 for the eosin ester and 9-anthracenecarboxylic acid. No apparent static interaction was obsd. in methanol soln. This may be explained in terms of hydrogen bonding between the hydroxyl group of methanol to anthracenecarboxylic acid, being in competition with that from the hydroxy group of the xanthene **dye** esters to 9-anthracenecarboxylic acid.

L14 ANSWER 23 OF 178 BIOSIS on STN  
AN 1999:152753 BIOSIS  
TI Investigation of the interaction between acridine orange and bovine serum albumin.

AU Feng, Xi-Zeng; Lin, Zhang; Yang, Lin-Jin; Wang, Chen; Bai, Chun-Li  
[Reprint author]  
CS Inst. Chem., Academia Sinica, Beijing 100080, China  
SO Talanta, (Dec., 1998) Vol. 47, No. 5, pp. 1223-1229. print.  
AB The results from the measurement of the fluorescence spectrum showing the binding characteristics of acridine orange (AO) and bovine serum albumin (BSA) are reported. It was found that the equilibrium constant  $k = 4848.64 \text{ l mol}^{-1}$ , and the number of binding sites  $n = 0.82$ . Based on the mechanism of the Forster energy transference, the transfer efficiency of energy and distance between the acceptor AO and BSA were found. The interaction between AO and BSA have been verified as consistent with the **static quenching** procedure and the **quenching mechanism** is related to the energy transfer.

L14 ANSWER 27 OF 178 CA COPYRIGHT 2006 ACS on STN  
AN 128:286451 CA  
TI Optical fiber sensor for berberine based on fluorescence quenching of 2-(4-diphenylyl)-6-phenylbenzoxazole  
AU Wang, Ying; Liu, Wan Hui; Wang, Ke Min; Shen, Guo Li; Yu, Ru Qin  
CS Dep. Chem. Chem. Eng., Hunan Univ., Changsha, 410082, Peop. Rep. China  
SO Fresenius' Journal of Analytical Chemistry (1998), 360(6), 702-706  
AB A new optical fiber sensor was prep'd. for the detn. of berberine in aq. soln. using a micrometer-sized flow-cell and a bifurcated optical fiber. The sensing is based on fluorescence quenching of 2-(4-diphenylyl)-6-phenylbenzoxazole (PBBO) in the PVC membrane. This process is accompanied by **non-fluorescent ground-state complex** formation. With this sensor, berberine can be detd. in sample solns. from  $2.42 \times 10^{-5} \text{ mol L}^{-1}$  to  $6.04 \times 10^{-7} \text{ mol L}^{-1}$ . Satisfactory reproducibility, reversibility, and short response times of less than 1 min are realized. The sensor also shows good selectivity over some common pharmaceutical species and alkali and alkali-earth metal salts, and can be used for the direct assay of berberine in com. tablets. The results are in correspondence with those obtained by the pharmacopoeia method.

L14 ANSWER 33 OF 178 CA COPYRIGHT 2006 ACS on STN  
AN 130:11924 CA  
TI Characterizing protein conformational transitions of Na,K-ATPase with antibodies by fluorescence spectroscopy  
AU Lewitzki, E.; Schick, E.; Hutterer, R.; Schneider, F. W.; Grell, E.  
CS Max-Planck-Institute of Biophysics, Frankfurt, D-60596, Germany  
SO Journal of Fluorescence (1998), 8(2), 115-119  
AB Stationary and time-resolved fluorescence of fluorescein 5'-isothiocyanate (FITC) - (Na<sup>+</sup>, K<sup>+</sup>) -ATPase was investigated as a function of pH in the presence of different ligands, cations, and monoclonal anti-FITC antibody 4-4-20. The binding of K<sup>+</sup> and of the antibody led to the same decreased fluorescence intensity level. Antibody binding was obsd. only under conditions where the enzyme existed in conformational state F1, and not in the form of the Na<sup>+</sup> or K<sup>+</sup> complex, or when it was phosphorylated with inorg. phosphate in the presence of Mg<sup>2+</sup>. For the interpretation of the results, it was shown that the fluorophore was not essentially affected by an acidity change of the bound **dye**, so that pK variations responsible for the obsd. intensity changes could be excluded in favor of a **static quenching process**.

L14 ANSWER 35 OF 178 CA COPYRIGHT 2006 ACS on STN  
AN 129:315901 CA  
TI **Ground-state complex** formation of perylene with pyromellitic dianhydride studied by static **fluorescence** quenching  
AU Gebert, Horst; Kretzschmar, Wolfgang; Regenstein, Wolfgang  
CS Institut fur Physik, Universitat Potsdam, Potsdam, D-14469, Germany  
SO Journal of Fluorescence (1998), 8(1), 67-72  
AB The assocn. of complexation with static quenching in charge-transfer systems was studied. Evaluation of the data for the title complex made evident that the inner filter effect must be allowed for. Time-resolved and temp.-dependent stationary measurements of fluorescence led to the sepn. of dynamic and static quenching components. The static quenching const. is discussed with respect to the equil. const. of complexation detd. by absorption spectroscopy.

L14 ANSWER 50 OF 178 MEDLINE on STN  
AN 96363768 MEDLINE  
TI Probing pH and pressure effects on the apomyoglobin heme pocket with the 2'-(N,N-dimethylamino)-6-naphthoyl-4-trans-cyclohexanoic acid fluorophore.  
AU Sire O; Alpert B; Royer C A  
CS Laboratoire de Biologie Physico-Chimique, Universite-Paris 7, France.  
SO Biophysical journal, (1996 Jun) Vol. 70, No. 6, pp. 2903-14.  
AB The environmentally sensitive fluorophore 2'-(N,N-dimethylamino)-6-naphthoyl-4-trans-cyclohexanoic acid (DANCA) has been used to probe the apomyoglobin heme pocket. The unexpected polarity of this domain is generally interpreted as arising from dynamic dipolar relaxation of the peptide dipoles surrounding the heme pocket. In the present work we reexamine the photophysical properties of DANCA in a variety of solvents and complexed with apomyoglobin (apoMb) to further probe the heme pocket environment as a function of external solvent conditions. Absorption and excitation spectra in a number of solvents are consistent with the well-known  $\pi^* \leftarrow \pi$  (LE) and  $\pi^* \leftarrow n$  (CT) electronic absorption transitions observed for naphthylamine derivatives. Dual emission is also a well-documented property of such derivatives. Based on the time scale of the heterogeneity in the decay of the DANCA fluorophore observed in a series of solvents, we propose that the emission properties of DANCA in apoMb are not uniquely attributable to dynamic relaxation events, but also reflect dual emission from both a long-lived, red CT state and the shorter-lived, blue LE state. The pH studies in the range of pH 5-9 of the emission properties of DANCA in apoMb support this hypothesis. They also suggest a specific interaction of DANCA with one or both of the pocket histidyl residues, which leads to a drastic **static quenching** and red shift of the bound DANCA **fluorescence** upon protonation. Similar effects are observed with increasing pressure, indicating that these two perturbations alter the DANCA-apoMb complex in a similar fashion. The pressure-induced form of the protein is distinct both energetically and structurally from the previously characterized acid intermediate, in that it is populated above pH 5 and retains a significant degree of integrity of the heme pocket.

AN 118:126476 CA  
TI Photo-induced intermolecular and intramolecular electron transfer reactions between xanthene **dyes** and donors/acceptors  
AU Shen, Tao; Zhao, Zhangong; Xu, Huijun  
CS Inst. Photogr. Chem., Acad. Sin., Beijing, 100101, Peop. Rep. China  
SO Science in China, Series B: Chemistry, Life Sciences, & Earth Sciences (1992), 35(2), 137-45  
AB A no. of electron donors, acceptors and dyads contg. xanthene **dyes** were synthesized. When the **dyes** were excited, the rate consts. and the efficiencies of the intermol. and intramol. photoinduced electron transfer reactions were detd. and calcd. Photoinduced electron transfer reactions occurred between xanthene **dyes** and very weak donors or acceptors. The rate consts. of intermol. reactions were controlled by diffusion, and influenced by the reactant concns. For low reactant concns., this kind of reaction took place mainly via the triplet excited state of the **dyes**. If different elec. charges exist with **dyes** and donors/acceptors there will be **static quenching** of the **dye fluorescence**. The intramol. electron transfer reactions are independent of the soln. concns., and they may directly proceed via the singlet excited state of the **dyes**.

L14 ANSWER 135 OF 178 CA COPYRIGHT 2006 ACS on STN  
AN 101:190987 CA  
TI Intramolecular interactions in the ground and excited states of 1,3-bichromophoric propanes in aqueous cyclodextrin solutions  
AU Itoh, Michiya; Fujiwara, Yoshihisa  
CS Fac. Pharm. Sci., Kanazawa Univ., Takara, 920, Japan  
SO Bulletin of the Chemical Society of Japan (1984), 57(8), 2261-5  
AB The enhanced fluorescence of several 1,3-bichromophoric propanes in aq. cyclodextrin solns. has been investigated by the steady-state fluorescence spectra and fluorescence lifetimes. 1-(9,10-Dicyano-2-anthryl)-3-(1- and 2-naphthyl)propanes exhibit the intramol. charge transfer complex fluorescence generated in the ground state in the presence of  $\gamma$ -cyclodextrin. Two bichromophoric propanes, 1,3-di-2-naphthylpropane and 1-(1-naphthyl)-3-(2-naphthyl)propane, in aq.  $\beta$ - and  $\gamma$ -cyclodextrin solns. show not only the intramol. excimer but also **ground state complex fluorescences**, though the **ground state complex** formation of dinaphthylpropane has never been obsd. in the homogeneous soln. even at low temp. The intramol. interactions in the ground and excited states are attributable to their intramol. geometrical restriction in the nonpolar cavity of the cyclodextrins.

=> log y  
STN INTERNATIONAL LOGOFF AT 16:42:32 ON 19 DEC 2006

=> d his

(FILE 'HOME' ENTERED AT 12:26:37 ON 20 DEC 2006)  
FILE 'CA' ENTERED AT 12:26:45 ON 20 DEC 2006  
L1 217 S (NONFLUORES? OR NON FLUORES?) (4A) (COMPLEX? OR PAIR? OR ASSOCIAT? OR CONTACT?)  
L2 20 S L1 AND (DONOR OR ACCEPT?)  
L3 3 S L1 AND (BILAB? OR DILAB? OR MULTILAB? OR (DUAL OR BI OT TWO OR '2 OR